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- Microwaves**  
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- microwave power tube directory-1963  
EI Dec 139d
- microwave reference section EI June 11 g
- microwave tubes, state of the art  
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- new pulse modulation method varies both  
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- Modulators**
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- designing SCR multivibrators  
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- eliminating the first stage of a  
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- Musical Instruments**
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 can accurate measurements be made with  
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**AS July 971g**  
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**AS Dec 1876g**  
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White noise, its nature, generation &  
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### Nuclear Science

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 nuclear reactors **IRE May 1261g**  
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## O

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### Oscillators

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high-stability transistor oscillator for  
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klystron oscillators for millimeter waves  
..... EI May 94g  
LC oscillator design ..... WW Nov 535g  
..... WW Dec 595g  
light-controlled oscillator ..... EL Mar 68c  
microminiature crystal oscillator using  
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new method of stabilizing microwave  
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oscillators by means of magnetoresistance  
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phase stable oscillators for space  
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variable-frequency sinusoidal, using a  
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### Patents

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### Photography

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high-speed photography of liquid/solid  
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high-speed photography using a  
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    IRE May 688g  
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    IRE May 698g  
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    AS Apr 438g  
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# R

## Radar

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    RE Nov 28g  
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    E Sept 7 56d  
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## Radiation

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    EI Nov 96g  
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 unique two-channel tachometer uses  
 radioisotopes \_\_\_\_\_ E Dec 7 44g

## Radio Control

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## Radiography

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## Ratiometric measurements, techniques &

accuracies \_\_\_\_\_ E Mar 23 56g

## Reactance

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## Receivers

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 biography of a modified NC-183  
   CQ Mar 52g  
 complete mobile installation for  
   compact cars .....QST Feb 44c  
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   EW Nov 60g  
   EW Dec 54g  
 gated A.V.C. system for S.S.B., A.M., &  
   C.W. ....CQ Sept 36c  
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   CQ Sept 44c  
   QST Dec 46g  
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 160-meter converter for 80-meter  
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 QRM eliminator for communication  
   receivers .....EW Mar 52c  
 ten meter conversion of the BC-348  
   CQ Jan 38c  
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 Scan-Pan panoramic adaptor  
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   CQ Aug 47c  
 tunable I. F. amplifier using transistors  
   QST Dec 11g  
 two-signal selectivity measurements  
   CQ Aug 60g  
 2-tube, 2-meter superregen .....PE Oct 65c  
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   QST May 44c  
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 characteristics of flywheel synchronizing  
   circuits in television .....EE Feb 77g  
 compact nuvistor product detector  
   EW July 27c  
 Delco Chevrolet auto radio Model 985332  
   TC Oct s TC Apr s  
 Delco Model 7276605 auto radio 1961  
   Cadillac .....TC Jan s  
 Delco Pontiac auto radio Model 983687  
   TC May s  
 design considerations for automobile  
   AM/FM receivers .....SP Aug 25g  
 designing AGC for transistorized receivers  
   ED Sept 13 64g ED Oct 11 76g  
 determining true performance EI Feb 120g  
 development of the art of radio  
   receiving .....IRE May 793g  
 Emerson transistor radio chassis 120655  
   TC Dec s  
 Fisher Model 800 AM/FM stereo receiver  
   TC Mar s  
 FM for motorists .....HF June 32g

General Electric Stereo phonograph  
   Model RP2060A .....TC Aug s  
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 half century of television reception  
   IRE May 799g  
 heterodyne receivers for RF-modulated light  
   beams .....RCA Sept 407g  
 Hoffman transistor radio chassis BP318  
   TC Apr s  
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 Motorola auto radio Models 202, 203, 204  
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   Model MPX-1-1 .....TC June s  
 Philco remote control receiver Model  
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   TC May s  
 printed circuit pocket radio .....EL July 50c  
 radio receivers — past & present  
   IRE May 884g  
 recent trends in receiver front-end design  
   QST June 17g  
 reducing interference in untuned-I.F.  
   receivers .....WW Nov 521g  
 replacement parts for transistor radios  
   PF Jan 24g  
 revolution in auto radio — transistors  
   are taking over .....PF Mar 24g  
 S-9'er, preselector .....PE Feb 47c  
 servicing FM stereo receivers .....TC June 34g  
 servicing two-way communications receivers  
   TC Sept 26g  
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   superheterodyne .....E Jan 19 44g  
 Sylvania stereo Hi-Fi Models 45C31-1,  
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Television  
 Admiral TV chassis 19B8B, 19UB8B  
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 Airline TV chassis Models WG 1683A,  
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- high frequency semiconductors **EI June C2 d**  
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BE	Broadcast Engineering	PE	Popular Electronics
CQ	CQ	PF	PF Reporter
E	Electronics	PGA	Prof. Group-Audio
ED	Electronic Design	QST	QST
EE	Electronic Engineering	RCA	RCA Review
EI	Electronic Industries	RE	Radio-Electronics
EL	Electronics Illustrated	S	Sound
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